> the LFACs records that contain the affected Feeder Facilities must be modified to insure that no Central Office based services are assigned to the now discontinued facilities. Cable records should be updated to show the presence of an Interconnect Cable.

KPMG Provisioning Final Rep. at 20.

KPMG Consulting interviewed a Verizon PA subject matter expert ("SME') on Unbundled Sub-loops on May 16, 2001. At this time, the SME stated that a TOPIC for a CLEC in Pennsylvania was turned up on May 15, 2001. Service orders for this were expected to begin in late May or early June, which orders would be the first orders for Unbundled Sub-loops in Pennsylvania. Id. at 20.

d. Voice Grade Loops, Both as New Loops and as Hot Cut Conversions[295]

[295] Loop Migrations, commonly known as "hot cuts," allow customers to subscribe to a CLEC for local telephone service and still retain their original telephone numbers through Local Number Portability ("LNP"). The local loop is physically moved from Verizon PA Central Office Equipment (a switch port) to a pre-determined CLEC facility within the CLEC Collocation facility. Retention of the Customers' telephone number is made possible by LNP. The new service provider ("NSP") activates a subscription record through the Number Portability Administration Center's Service Management System ("SMS"). The Number Portability Administration Center ("NPAC") broadcasts the subscription record data to all LNP Service Control Point ("SCP") databases. This subscription record contains routing information that allows other switches to deliver calls to the NSP switch. KPMG Provisioning Final Rep. at 5.

To perform the migration, the CLEC requests a Frame Due Date and Frame Due Time when it issues a Local Service Request ("LSR") to Verizon PA. Verizon PA acknowledges this activity via a Local Service Confirmation ("LSC"). Verizon PA must execute the Hot Cut within a defined time known as the "Hot Cut Window." The Hot Cut Window is one hour (1-9 lines), two hours (10-49 lines), three hours (50-99 lines), four hours (100-199 lines), eight hours (greater than 200 lines) and four hours for a Hot Cut requiring a conversion from Integrated Digital Loop Carrier ("IDLC") to copper facilities. The Hot Cut Window begins on the Frame Due Date at the Frame Due Time and ends when Verizon PA's Regional CLEC Coordination Center ("RCCC") calls the CLEC with a completion notification. Id. at 5

The RCCC is responsible for coordinating all Hot Cut work activities (Central Office and Outside Plant) to assure that the work is completed in the allotted time. The RCCC is supposed to notify the CLEC at least three times during this process: on Frame Due Date –Two days to verify order content, on Frame Due Date just prior to the Hot Cut to get a "go-ahead" from the CLEC, and after work activities are completed. Id. at 5.

Verizon PA's process provides a redundant check to verify that CLEC and Verizon PA telephone numbers match. Verizon PA will not perform the cut if there is no CLEC dial tone or if the telephone numbers do not match on conversions with LNP. Id. at 5.

Verizon PA provides access to unbundled voice grade loops, both as new loops and as hot cut conversions.

There was some alleged controversy concerning Verizon PA's performance, especially with respect to hot cuts.

(1) Field Observations of Coordinated Loop Migrations (Hot Cuts)

Table 2 below shows results of Coordinated Hot cut "live" CLEC commercial provisioning observations for 13 loop migration (Hot Cut) orders with a total of 40 lines.

Table 2: Loop Migration with LNP (Hot Cut) Findings

Product	Observation Point(s)	Provisioning Activity M&P Compliance Assessment			Provisioning Activation Timeliness Assessment		
		# of Tasks Observed	# of Compliant Tasks	% of Compliant Tasks	# Of Activation Attempts Observed	# Of Activation Attempts Completed on Time	% Of Activation Attempts Completed on Time
Hot Cuts	Various Verizon PA COs MDFs	347	347	100%	[296]12 Orders (35 Lines)	12 Orders (35 Lines)	100%

KPMG Provisioning Final Rep. at 12-13.

KPMG Consulting reviewed Verizon PA's internal M&Ps: *UNE Conversions – NOCIL 9907-012A, Conversion Coordination for Non-design UNE – 1999-002MP-OSS,*

On *Frame Due Date –Two days*, Verizon PA will also provision a non-conditional trigger in the "donor switch." In this case the donor switch is the Verizon PA switch giving up the telephone number. The non-conditional trigger allows the CLEC to activate the NPAC subscription record without Verizon PA coordination. If this trigger is not provisioned, calls made to the new CLEC customer by other customers in the donor switch will not complete. KPMG Consulting 5/31/01 Final Provisioning Rep. at 6.

[296] One order (5 lines) was cancelled by the CLEC due to the CLEC's omission of one of the customer's telephone numbers on the LSR.

Issue B, 2-wire Hot Cuts including LNP & IDLC-RCO-99-1014. These M&Ps detail Plant Field force and RCCC coordination responsibilities. All Hot Cut installation issues are addressed. Verizon PA's M&Ps instruct Plant technicians to pre-wire the circuit and the non-conditional trigger is provisioned by the Service Order System prior to the Frame Due Date. During the actual cutover, Verizon PA technicians perform redundant checks on CLEC dial tone and verify that they are migrating the correct telephone number. The RCCC confirms the order with the CLEC on *FDD-2* (Frame due date minus 2), calls the CLEC for a go-ahead prior to the cutover and calls the CLEC again after the cutover completes. KPMG Provisioning Final Rep. at 13.

The KPMG/PAPUC team measured Verizon PA's ability to comply with tasks defined in its internal M&P documentation as applied to coordinated Hot Cuts. The team evaluated each hot-cut to validate that Verizon PA technicians followed the proper sequence for the defined tasks. Verizon PA's M&Ps identify certain tasks that technicians must complete during the migrations. During twelve migrations (Hot Cuts), the team observed a total of 347 tasks. Factors affecting the number of tasks observed in a given migration include the presence or absence of LNP or IDLC conversions. One order with five lines, which was canceled by the CLEC, is not included in the above numbers. All 347 tasks (100%) were executed in accordance to Verizon PA's M&Ps. Id. at 13-14.

KPMG Consulting measured Verizon PA's ability to complete the migration within the PA Carrier to Carrier cutover window: one hour for 1 – 9 lines and two hours for 10 – 49 lines. Verizon PA executed all twelve migrations 100% within the appropriate cutover window. KPMG Consulting noted that three orders were late (i.e., completed out of the standard Hot Cut window)at the request of the CLEC. Verizon PA accommodated the CLEC by completing the orders in the afternoon and the evaluation team credited Verizon PA with completing these cuts on time. One order (5 lines) was cancelled by the

CLEC due to the CLEC's omission of one of the customer's telephone numbers on the LSR. Id. at 14.

We find that Verizon PA's hot cut timeliness and quality was adequate. We note that XO presented evidence of 61 premature disconnects and that Verizon PA admitted at least five of them. 3/22/01 Tr. at 155. However, XO did not report the other incidents to Verizon PA, thus, Verizon PA did not agree to or dispute the remaining incidents because it had received no trouble report from XO on them. Id. at 155–159. While XO's alleged experience is unfortunate. It is unreported and isolated. In the 12 months ending February, Verizon PA migrated a total of 221,000 lines to CLECs in Pennsylvania. 3/22/01 Tr. at 154. Based on the evidence of record, we do not find a systemic problem nor one that would rise to the level of noncompliance.

d. Line Sharing

Until December 2000, Verizon PA was providing DSL service in certain of its central offices. In December 2000, Verizon PA's DSL service, along with a few other high speed data services, was transferred, with PAPUC approval to VADI, a Verizon PA affiliate. VADI does not render stand-alone DSL. Rather, it offers service through a line sharing arrangement.[297] According to Verizon PA, it is treating VADI as any other CLEC. In addition to VADI, a number of independent CLECs are also providing DSL in Pennsylvania. Typically, these CLECs provide only data services; such carriers are frequently called "Data LECs" or DLECs. At this point in time, VADI has many more DSL lines in-service than do the independent CLECs.

Line sharing DSL takes advantage of the fact that DSL service can be provided over the same line as voice grade telephone service. Because voice grade service and DSL use different parts of the frequency spectrum, they do not interfere with each other if properly handled. With line sharing DSL, the voice service is provided by Verizon PA

and the DSL is provided by VADI or one of the independent CLECs. Line sharing DSL requires two pieces of electronic equipment: a splitter and a DSLAM. This splitter functions to separate the voice and data signals. The voice signal leaves the splitter and goes to the telephone company switch. The data signal leaves the splitter and goes to the DSLAM. Because line sharing DSL does not require a separate loop, Verizon PA does not charge the CLEC for use of the loop itself (this seems appropriate since Verizon PA is already recovering the cost of the loop from its voice telephone rates).

In Pennsylvania, most line sharing is being conducted by VADI, Verizon PA's separate data affiliate. Verizon PA reports that as of December 29, 2000, approximately 360 line share orders have been placed in Pennsylvania by non-affiliated CLECs. Cklist Dec. at ¶ 187. At that time, VADI had just recently begun operating in Pennsylvania and, thus, had only recently submitted line sharing orders to Verizon PA. Id. Two months later, however, there were approximately 36,900 line sharing orders installed, over 75% of which were installed for VADI. 2/28/01 Tr. at 19.

Issues regarding the quality of central office wiring for line sharing were initially presented by two CLECs, Covad and Rhythms. During the course of the proceeding, Verizon PA was able to satisfy their immediate concerns.

(1) Field Observations of ADSL Line Sharing Provisioning[298]

Table 3 below shows results of ADSL Line Sharing provisioning observations, which were conducted by the KPMG /PAPUC team. The team observed 36 "live" CLEC ADSL Line Sharing installations to verify that the installations were completed on the agreed-upon due date. These orders were provided to KPMG by Verizon PA upon request. The majority of these orders were for VADI installations (31); the remaining orders were from other DLECs active in PA (5). It is the understanding of KPMG that VADI is a subsidiary of Verizon PA's parent company and several of the parent's operating companies. It is also understood by KPMG that VADI has filed for certification to become a CLEC with the PAPUC, but the PAPUC has not granted final certification. The present operational status of VADI is under a provisional authority to provide telecommunication in the Commonwealth.

[298] ADSL Line Sharing is a wholesale service, which unbundles the high frequency portion of a loop that is being utilized to provide POTS ("Plain Old Telephone Service") service by Verizon PA. This high-speed data channel is made available to a DLEC to provide certain xDSL services simultaneously with POTS service provided by Verizon PA. This service eliminates the DLEC's need to lease the entire loop as in standalone ADSL. KPMG Provisioning Final Rep. at 6.

POTS loops qualify for line sharing service if they are non-loaded copper loops ≤18 kilofeet in length. Line sharing requires a DLEC DSLAM and splitter located in the central office. The splitter creates separate channels for POTS (dial tone services) on the Low Frequency portion of the loop and Data Services on the High Frequency portion of the loop. The DLEC can install the DSLAM and splitters in a physical or virtual collocation arrangement. Id. at 6.

Verizon PA is responsible for maintaining the Voice portion of the loop and the High Frequency portion of the loop from the end user's NID to the Point of Termination ("POT") bay in the central office. Id. at 7.

The DLEC is responsible for CPE ("Customer Premise Equipment") such as splitters, high/low pass filters, and ADSL modems. In addition, the DLEC is responsible for their collocation equipment and for coordinating maintenance activities on the high frequency portion of the loop. The DLEC is provided access to Mechanized Loop Test (MLT) testing capabilities through Repair Trouble Administration System ("RETAS") to troubleshoot the loop. Id. at 7.

Table 3: ADSL Line Sharing Findings

Product	Observation Point(s)	Provisioning Activity M&P Compliance Assessment			Provisioning Activation Timeliness Assessment		
		# Of Tasks Observed	# Of Compliant Tasks	% Of Compliant Tasks	# Of Activation Attempts Observed	# Of Activation Attempts Completed on Time	% Of Activation Attempts Completed on Time
ADSL Line Sharing	Various Verizon-PA CO MDFs	169	168	99%	35[299]	34	97%

KPMG Consulting 5/31/01 Final Provisioning Rep. at 14-15.

KPMG reviewed Verizon PA Line Sharing Provisioning & Maintenance Procedures: *2000-00322-MDP, 11/30/00 Version C and Line Sharing-Network Creation, Provisioning & Maintenance Central Office-NOCIL-0006-021.* These documents provide installation procedures for Central Office Personnel that minimize customer down time and provide for checks of the dial tone portion of the loop three times: before, during, and after the provisioning procedure has concluded. KPMG Provisioning Final Rep. at 15.

The KPMG/PAPUC team measured Verizon PA's ability to comply with tasks defined in its internal ADSL Line Sharing M&P documentation. The team evaluated each ADSL Line Sharing installation to validate that Verizon PA technicians followed the proper sequence for the defined tasks. Verizon PA's M&Ps identify certain tasks that technicians must complete during ADSL Line Sharing installations. For instance, the technician will perform a load coil check and put the order in jeopardy if one is detected. It is not necessarily the case that non-adherence to methods and procedures results in an adverse impact to the CLECs. For example, tasks that were executed out of sequence

[299] One order of the 36 was canceled due to a lack of facilities leaving 35 to evaluate for timeliness.

presented no adverse impact to the ADSL Line Sharing installation. During 38 installations, the evaluation team observed a total of 169 tasks. A total of 168 tasks (99%) were executed in accordance with Verizon PA's methods and procedures. (The 1% non-adherence finding did not have an adverse impact on the CLECs.) No tasks were observed on four orders (two canceled orders and two orders where the team observed the Covad installation process). Id.

Verizon PA provisioned 97% of the 35 circuits where facilities were available, on the agreed-upon due date; one order was not provisioned correctly. The evaluation team observed that 3% or one order out of the 36 submitted orders were unable to be provisioned because suitable facilities were not available to complete the installation.

(2) KPMG Consulting Metrics Discrepancy Report

KPMG's examination of the January, February and March 2001 C2C reports identified no instances where CLEC identified discrepancies with the Verizon PA reported values could be fully substantiated.

e. Line-splitting[300]

[300] Line Splitting differs from Line Sharing in that a CLEC provides the POTS service on the low frequency portion of the loop instead of Verizon PA. The description of Line Splitting for the purpose of this report was taken from the New York Collaborative. Initially, the future offering will allow end-users to:

1) Migrate from Verizon PA POTS service to a CLEC's POTS service and retain their existing DSL provider.
2) Migrate from one CLEC voice provider to another CLEC voice provider and retain their existing DSL provider.
3) Allow an existing UNE-P customer to add DSL service.
4) Allow the CLEC to be both the voice and data provider under scenario #3.

KPMG Provisioning Final Rep. at 11.

Line splitting is a provisioning process where one competitor uses the low frequency portion of a loop to provide voice service and either the same or a second competitor uses the high frequency portion of the same loop to simultaneously provide data services to the end-user customer. Generally, discussions about line splitting focus on use of the line by two carriers other than Verizon PA. Line splitting is the subject of an ongoing collaborative effort between Verizon PA, the industry, and regulators.

(1) KPMG Consulting Process Review of ADSL Line Splitting

The Line Splitting Service offering is a collaborative effort under the direction of the New York Public Service Commission at case no. 00-C-0127. This collaborative has issued a draft document entitled "Service Descriptions Line Splitting – January 26, 2001 View." KPMG reviewed these documents which focus on two specific service scenarios: (1) An existing Verizon PA voice customer with a DLEC-provided DSL moves to a competitive voice provider and wishes to retain the same DLEC-provided data service, (2) an existing UNE-P customer wishes to add data service. This document is in an initial stage of development. KPMG Provisioning Final Rep. at 22.

(2) Status of Availability

Line Splitting is not currently a separate service offering in Pennsylvania. CLECs may self provision line splitting in collocation arrangements just as in Massachusetts. The New York pilot is finalizing the requirements for new ordering mechanisms to simplify the process. This augmented Line Splitting is tentatively scheduled for New

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There should be little difference in the central office installation process for wiring a Line Sharing or Line Splitting circuit. The only material difference would be that instead of wiring the Verizon PA Office Equipment ("OE") to the splitter Main Distribution Frame ("MDF") block, the technician would wire the splitter to a CLEC Carrier Facility Assignment ("CFA"). Verizon PA has taken the position that whoever provides the voice portion of the loop owns the Customer Service Record and receives the wholesale bill. A DLEC could not issue a Line Splitting order unless they were to negotiate a separate interconnection agreement with the CLEC voice provider. Id. at 11-12.

York commercial offering in the last quarter of 2001. As of this time there are no provisioning procedures in place for technicians in Pennsylvania. Id.

When the loop is split between two competitors (one voice, other data), the FCC is satisfied with Verizon PA's commitment to adhere to the implementation schedules, terms, conditions and guidelines established in the ongoing DSL collaborative at the New York Public Service Commission, including plans to offer OSS capability necessary to support UNE-P migrations to line splitting by October 2001. Verizon has committed to bringing its New York line splitting offerings to Pennsylvania. We find that Verizon PA has demonstrated compliance with respect to line splitting due to its agreement to implement line splitting in Pennsylvania on the same terms and conditions as they are doing in New York.

5. Commercial Operation's Data

While Verizon PA has demonstrated adequate and non-discriminatory performance for the vast majority of metrics and products in this area, the C2C Aggregate report for March 2001 indicates that, for several products, Verizon PA did not meet the performance standards for certain critical provisioning metrics relevant to Checklist 4. Those metrics are as follows: PR-1-01, PR-2-01, PR-2-02, PR-4-02, PR-5-01, PR-6-01, and PR-8-01. Therefore, the commercial operations data for these particular metrics warrant further analysis herein.

As a preliminary matter, we note Verizon PA's suggestions that the analogs for some of the metrics need to be adjusted, as has been accomplished by collaborative in New York and Massachusetts in December 2000 and subsequently approved in by the FCC for Massachusetts. Verizon PA also states that the majority of these missed metrics do not accurately capture its performance for these products due to the faulty compare groups. In particular, Verizon PA asserts that the faulty compare groups for the non-xDSL loop metrics derive from the lack of a comparable retail analog. Verizon PA

asserts that such metrics should use a benchmark standard. For the remaining metrics, Verizon PA asserts that its March performance confirms a pattern of quality performance. Verizon PA Resp. to 5/23/01 Data Req. 1, filed 5/25/01 at 1. Verizon PA further asserts that the Checklist 14 metric misses are not competitively significant and do not have an adverse effect on Verizon PA's compliance with Checklist Items 4. Verizon PA Resp. to 5/23/01 Data Req. 1, filed 5/25/01 at 1.

In the KPMG Metrics report issued May 31, 2001, KPMG found that several of the metrics are not being interpreted in the same manner by the CLECs and Verizon PA.[301] While we have deferred any adjustments to our PA metrics to the further metrics and remedies proceeding stemming from our Structural Separations Order as discussed more fully elsewhere in this Consultative Report, we shall explore Verizon PA's assertions relative to these defective metrics and our views of the commercial data as reported for key metrics. Based on the performance data from Verizon PA's April 18, 2001 revised Measurement Declaration Attachment 403 and Verizon PA's C2C Aggregate Reports for January, February, March, and April 2001,[302] we have reviewed PR-1-01, PR-2-02, PR-4-02, PR-5-01, PR-6-01, PR-8-1, and MR-5-01. We anticipate that these analog and interpretation problems can be resolved in the further metrics and remedies proceeding.

POTS

PAPUC Commercial Data Observations

For PR-1-01 "Average Interval Offered – No Dispatch – Hot Cut Loop," Verizon has shown improvement in its performance from March 2001 (7.54 days) to April 2001 (6.81 days). For PR-6-01 " % Installation Troubles within 30 Days – POTS – Loop,"

[301] This finding was repeated in the revised KPMG Metrics Report issues June 15, 2001.

[302] As noted in other discussions of Checklist commercial data, we shall look at improvement in April 2001 to find trends but not at worsening performance because Verizon PA would not have had a chance to explain its performance in April 2001.

Verizon PA showed steady improvement from January 2001 through March 2001. For MR-5-01 "% Repeat Trouble within 30 days – POTS," Verizon PA's performance improved steadily from January 2001 in to April 2001. We are encouraged by these improvements.

Verizon PA's Metrics Concerns

Verizon PA claims that the PR 1-01 and PR 2-01 measures for average interval offered and completed for wholesale hot cuts do not have a comparable retail analog and, therefore, do not capture performance accurately. Verizon PA asserts that neither the New York nor Massachusetts C2C guidelines include these metrics with analogs. Verizon PA asserts that benchmarks should be used instead of retail comparisons. Verizon PA Resp. to 5/23/01 Data Req. 1, filed 5/25/01 at 1. Verizon PA did not, however, suggest what the benchmarks should be.

PR 5-01 measures facility misses for POTS loops, 2 wire digital products and specials. With respect to UNE POTS loops, Verizon PA claims that this metric does not fairly compare wholesale and retail performance because the UNE Loop product requires a dispatch, while the retail POTS compare group includes a mix of dispatch and non-dispatch orders. Verizon PA claims that the New York C2C guideline includes only dispatch orders. With respect to 2 wire digital loops, the same card optioning issues described in PR 4-02 affect this metric. When orders are missed due to the complexity of the card optioning, they are counted as facility misses. With respect to UNE specials, this metric does not fairly capture Verizon PA's performance because UNE specials require a new facility build on all orders. The retail compare group, however, measures a combination of new facility builds, changes to existing facilities, and software changes. Because a new facility build is required for each UNE special order, there is greater opportunity for facility misses. Finally, Verizon PA claims that the reported volumes for 2 wire digital and UNE specials are very low for this metric and that these metric misses

are, therefore, not competitively significant. Verizon PA Resp. to 5/23/01 Data Req. 1, filed 5/25/01 at 2-3.

Verizon PA acknowledges consistently missing PR 6-01, which measures installation troubles reported within 30 days, for UNE POTS loops but claims the misses are because the retail comparison is "not fair." Verizon PA explains that the "vast majority" of unbundled POTS loops provisioned by Verizon PA require physical provisioning work, such as a central office cross-connect and/or a field dispatch to provision a cable pair at an end user's location. The retail POTS compare group, however, includes a mix of dispatch and non-dispatch orders. Verizon PA claims that the lower retail percentage can be attributed to the fact that it contains a very large number of highly automated, non-dispatchable orders such as number and feature changes. When the proper comparison is made to retail dispatch orders, Verizon PA's claims that its wholesale performance is better than retail performance, 2.10% compared to 8.17%. Verizon PA Resp. to 5/23/01 Data Req. 1, filed 5/25/01 at 3.

Acknowledging that it was out of parity in March 2001 for MR 4-02, measuring mean time to repair - loop troubles, Verizon Pa claims that it did in fact improve performance in this metric throughout the commercial availability period. March reflected poorly due to two wholesale repair orders with unusual problems that skewed the results for this metric. Specifically, there was one wholesale customer in western Pennsylvania that had a bad cable failure, which required Verizon PA to dig trenches to complete the repair. As a result of bad weather, the trench caved in. The first trouble ticket accumulated 311.25 hours; and the second ticket accumulated 290.58 hours. If these tickets are removed, Verizon PA's performance as measured by MR 4-02 would have been in parity with retail. In addition, 27 of the wholesale trouble tickets had restricted access times (end user not available on weekends). Verizon PA claims that this kind of uncontrollable limitation affects Verizon PA's flexibility in making timely repairs. Verizon PA asserts that if these 27 tickets are removed from this metric, Verizon

PA's wholesale performance would better than its retail performance. Verizon PA Resp. to 5/23/01 Data Req. 1, filed 5/25/01 at 3.

MR 4-03 measures the mean time to repair. Verizon Pa asserts that, for UNE loops in March 2001, it missed this metric by only 3.58 hours, having shown improvement for this metric over the past several months. Verizon PA complains that this metric does not fairly capture Verizon PA's performance because the CLECs misdirect a large number of dispatches (or trouble tickets), which increases the maintenance time and unfairly skews the results. Verizon Pa claims that, in March 2001, the CLECs misdirected 41% of the UNE loop troubles (i.e., calling for dispatch when in reality the trouble was in the central office). According to Verizon PA, removing the misdirected troubles from the metric drops the wholesale mean time to repair to 8.73 hours, compared to 8.42 hours for retail. Verizon PA claims that the difference of a quarter-hour is not competitively significant. Further, Verizon PA notes that 32% of the central office troubles in the retail compare group were closed within 10 minutes because they involved simple translation and feature fixes. Because all UNE loop central office troubles require physical wiring work (the CLEC owns the switch), all of them require a dispatch to the central office. If front-end closeouts (less than 10 minutes) are removed from both wholesale and retail performance, the retail mean time to repair increases to 12.43 hours, compared to 12.43 for wholesale, according to Verizon PA. Verizon PA Resp. to 5/23/01 Data Req. 1, filed 5/25/01 at 3-4.

MR 5-01, as a Checklist Item 4 metric, measures the percentage of repeat troubles within 30 days for POTS loops. According to Verizon PA, as with MR 4-03, this metric does not fairly capture Verizon PA's performance because the CLECs often dispatch troubles in the wrong direction. According to Verizon PA, 13% of the repeats in March 2001 were caused by a CLEC dispatching the first ticket in the wrong direction. If misdirected dispatches and no access situations are removed from this metric, Verizon

PA claims that its wholesale performance would be within 1.1% of retail. Verizon PA Resp. to 5/23/01 Data Req. 1, filed 5/25/01 at 4.

2 Wire Digital and 2-wire xDSL

PAPUC Commercial Data Observations

For PR-4-02 "Average Delay Days Total – 2 wire Digital," Verizon PA missed the metric in January 2001, passed the metric in February, missed the metric in March 2001, but showed improvement into April 2001. By April 2001, Verizon PA slashed one third of the delay from the CLEC performance while the retail analog performance deteriorated slightly. For PR-5-01 "% Missed Appointments – 2 wire xDSL" Verizon significantly improved performance from March 2001 into April 2001. For PR-6-01 " % Installation Troubles within 30 Days – 2 wire digital," Verizon PA showed steady improvement from January 2001 through March 2001, even passing the metric in March 2001. These data reflect a pattern of improved performance in this area.

Verizon PA's Metrics Concerns

Verizon PA missed PR 4-02 measuring average delay days for 2 wire digital services in March 2001. Verizon PA claims that CLECs typically order the 2 wire digital product when DSL is not available because the end user is served on Digital Loop Carrier (DLC). This product requires complex card optioning, which is difficult to provision and may result in missed appointments and provisioning delays. Thus, argues Verizon PA, this metric does not fairly capture Verizon PA's performance because the retail group is ISDN customers, which are more often served on copper and therefore do not require the same complex work on DLC cards. Customers served on copper do not require card optioning, and therefore the provisioning problems associated with these cards are not present for the retail compare group. Verizon PA has, however, provided additional training to its technicians to improve performance for this metric. In April 2001, Verizon

PA's performance for this metric was in parity with retail. Finally, as with PR 4-02, the reported volumes for this metric are very small. Verizon PA Resp. to 5/23/01 Data Req. 1, filed 5/25/01 at 2.

Specials

PAPUC Commercial Data Observations

For PR-2-02 "Average Interval Completed – Total Dispatch – Specials," Verizon PA had the metric under development in January 2001, passed the metric in February 2001, and missed the metric by a relatively small margin in March 2001 (10.14 days for analog performance and 18. 39 days for CLEC performance, resulting in Z = -2.31). For PR-5-01 "% Missed Appointments – Specials," there was not enough activity to measure for Specials in April 2001, but Verizon PA had passed that metric in February 2001. In the Commission's judgement, the relatively small number of misses and the lack of substantial commercial activity here do not warrant a conclusion that there is a barrier to local competition in this area.

Verizon PA Metrics Concerns

For PR 2-02 which measures the average interval completed, Verizon PA acknowledges its March performance for UNE specials appears to be out of parity. Verizon PA excuses this result by asserting that the metric compares wholesale complex high speed DS1 and DS3 services to ***all*** retail special services, including simpler, faster to install, low speed DS0 and alarm circuits. Verizon PA also claims that the small sample, while large enough to be analyzed statistically, is too small a measure upon which to predicate a market-wide observation. Verizon PA Resp. to 5/23/01 Data Req. 1, filed 5/25/01 at 2.

Various Products

PAPUC Commercial Observations

For PR-8-1, "% Open Orders in Hold Status" for various products, the data indicate differences between analog and CLEC service. We note, however, that there were just barely enough observations to analyze statistically; we do not believe that there were enough observations to warrant a negative 271 recommendation based upon just this one function for the few products involved.

Thus, having analyzed the commercial patterns, we agree with Verizon that there are problems with the identified metrics. After analyzing commercial data as a whole, we conclude that the commercial data for Checklist 4 supports an affirmative section 271 filing.

6. Conclusion

Based on the foregoing, and the evidence of record, we conclude that Verizon PA has demonstrated compliance with Checklist item No. 4.

F. Checklist Item 5 - Unbundled Local Transport

1. Description of Checklist Item

Section 271(c)(2)(B)(v) of the competitive checklist requires a BOC to provide "[l]ocal transport from the trunk side of a wireline local exchange carrier switch unbundled from switching or other services."[303] The FCC concluded that ILECs must provide interoffice transmission facilities or "transport" facilities, on an unbundled basis, to requesting telecommunications carriers pursuant to section 251(c)(3).[304] The FCC

[303] 47 U.S.C. §271(c)(2)(B)(v).

[304] Local Competition First Report and Order at ¶ 439.

further concluded that "interoffice transmission facilities" include both dedicated transport and shared transport.[305]

2. Standard of Review

The FCC held that ILECs must provide unbundled dedicated transport or transmission facilities between LEC central offices or between such offices and those of competing carriers.[306] This includes, at a minimum, interoffice facilities between end offices and serving wire centers (SWCs), SWCs and IXC POPs, tandem switches and SWCs, end offices or tandems of the ILEC, and the wire centers of ILECs and requesting carriers.[307] The FCC further concluded that the ILEC must also provide all technically feasible capacity-related transmission services, such as DS1-DS3 and OC3-OC192.[308] The ILEC must also provision dark fiber as a UNE.[309]

Additionally, the FCC held that ILECs must provide unbundled shared transport, which consists of transmission facilities shared by more than one carrier, including the ILEC, between end office switches, between end office switches and tandem switches, and between tandem switches in the ILEC's network.[310]

[305] Id. at ¶ 440.

[306] Id.

[307] Id.

[308] UNE Remand Order at ¶ 323.

[309] Id. at ¶ 326.

[310] In the Matter of Implementation of the Local Competition Provisions in TA-96, CC Docket No. 96-98, Third Order on Reconsideration, FCC 97-295 at ¶¶ 22, 25 (rel. August 18, 1997) (Local Competition Third Reconsideration Order).

Therefore, to satisfy its obligations under this subsection of the competitive checklist, an applicant must demonstrate that it is offering both dedicated and shared transport to requesting carriers.[311]

3. Summary of Evidence before PAPUC

Verizon PA

In its section 271 compliance filing filed with the PAPUC, Verizon PA states that it provides unbundled local transport pursuant to both interconnection agreements and its Tariff No. 216.[312] According to Verizon PA, dedicated transport is available within the same LATA between CLEC central offices and Verizon PA central offices and among Verizon PA central offices.[313] Verizon PA offers transmission capabilities, such as DS1, DS3, STS1, and optical carrier levels OC-3 and OC-12.[314] Verizon PA reports that by February 2001, it had more than 1,200 dedicated interoffice facility ("IOF") arrangements in service.[315] Additionally, Verizon PA asserts that CLECs may use its shared transport network element for carrying their customers' traffic between Verizon PA's end-office switches, between Verizon PA's end-office and tandem switches, and between Verizon PA's tandem switches.[316] Furthermore, Verizon PA asserts that CLECs may use shared transport to reach other carriers' networks that are interconnected to Verizon PA's network.[317]

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[311] See BA NY 271 Order at ¶ 338; SWBT Texas 271 Order at ¶ 332, MA 271 Order at ¶ 208.

[312] Cklist Dec. at ¶ 238.

[313] Id. at ¶ 239.

[314] Id.

[315] Supp. Cklist Dec. at ¶ 133.

[316] Cklist Dec. at ¶ 251.

[317] Id.

Verizon PA also states that it provides shared transport to CLECs in connection with unbundled local switching elements through UNE-P. Verizon PA explains that unbundled shared transport is not a separately orderable element, but is provisioned in conjunction with the unbundled line port at Verizon PA's end office switch.[318] Verizon PA reports that through February 2001, it has provisioned nearly 175,000 switching ports to CLECs, and is providing shared transport to and from each switching port.[319] Thus, the interval associated with unbundled shared IOF transport would be the interval for establishing an unbundled line port depending on the specific type of unbundled line port ordered. Verizon PA also reports an 83.7% on-time completion rate for CLECs' UNE-IOF transport orders during February 2001.[320] Verizon PA informed the PAPUC that its on-time completion rate would have improved to 91.7% during February 2001[321], however, two of the orders skewed the averages dramatically since it did not have IOF facilities available to provision these UNE transport requests.

According to Verizon PA, as of February 2001, it had provisioned 1,279 dedicated IOF arrangements (552 DS-1 level and 727 DS-3 level arrangements) to 17 different CLECs.[322] Moreover, Verizon PA added 1.8 million DS-0 circuits to the IOF network in Pennsylvania, 23 percent of which (418,000 voice-grade circuits) were provided to CLECs as dedicated UNE IOF transport.[323] Verizon PA also offers OC-3 (optical carrier level 3) and OC-12 (optical carrier level 12) transport.

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[318] Id. at ¶ 252.

[319] Supp. Cklist Dec. at ¶ 135.

[320] Id. at ¶ 136.

[321] Id. at ¶ 137.

[322] Id. at ¶ 133.

[323] Id. at ¶ 134.

The provisioning interval for unbundled DS1 and DS3 interoffice transport facilities is based on Verizon PA's experience with private line and special access service. For quantities of one to eight circuits, the general provisioning interval is 15 days where facilities are available. Intervals for larger requests and for optical carrier transport facilities are negotiated with the CLEC.[324]

Verizon PA indicates that the comparison between UNE-IOF and the Verizon PA retail compare group as currently reported on Verizon PA's C2C performance reports is misleading. The retail compare group for UNE-IOF consists of all non-UNE special services, including low-speed, copper, two-wire special services, such as off premise extensions and burglar alarm circuits. Moreover, unlike UNE-IOF transport, these low-speed services are not dependent on the availability of high-speed fiber multiplexors and equipment necessary to provision fiber-based high capacity DS3 services.[325] Verizon PA also indicates that, as the FCC recently found in its Massachusetts 271 Order, a more appropriate comparison for UNE transport is the provision of retail DS3 high capacity circuits.[326] According to Verizon PA, a formal change to this compare group will be requested through the appropriate PAPUC procedures.[327]

Additionally, Verizon PA states that it has made dark fiber[328] available to CLECs since May 17, 2000, in accordance with the FCC's UNE Remand Order.[329] Verizon PA

[324] Cklist Dec. at ¶ 244.

[325] Supp. Cklist Dec. at ¶ 138.

[326] Id.; MA 271Order at ¶¶ 209-210.

[327] Supp. Cklist Dec. at ¶ 138.

[328] Unbundled dark fiber is a spare, unlit, continuous individual fiber optic strands within an existing, in-place fiber optic cable sheath owned by Verizon PA that a CLEC may access via existing Hard Termination Points. An unbundled dark fiber circuit consists of two (2) fibers and must be ordered in increments of two (2) fibers between each location. See KPMG Consulting 5/31/01 Final Provisioning Rep. at 10, 20 - 22.

[329] Cklist Dec. at ¶ 245.

indicates that it has amended interconnection agreements with 12 CLECs to include terms and conditions on the offering and provisioning of dark fiber.[330] Verizon PA asserts that these terms and conditions are accessible to any CLEC through their individual interconnection agreements and that it is willing to negotiate any additional terms and conditions with a CLEC.[331] Verizon PA explains that it does not offer dark fiber within its tariffs.[332] Verizon PA also indicates that only one CLEC (Cavalier) has ordered dark fiber in Pennsylvania.[333]

Verizon PA states that the standard provisioning interval for dark fiber when facilities are available is 30 business days for quantities of one to eight; and for more than eight, the interval is negotiated.[334] The interval for provisioning dark fiber when there are no facilities available but additional capacity is being added by Verizon PA varies according to the job completion schedule. Verizon PA asserts that there is no metric to record its performance relative to dark fiber requests because as Verizon PA explained the product itself does not fit into any of the definitions that have been established in current (reporting) guidelines for products.[335]

Verizon PA has processes and procedures in place for ordering dark fiber including an inventory system (TIRKS system) to check for spare fibers. Verizon PA alleges that its TIRKS system contains proprietary information and, thus, a CLEC can not have access to the database.[336]

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[330] See Cklist Dec. Att. 202.

[331] 2/26/01 Tr. at 13.

[332] Cklist Dec. at ¶ 245.

[333] 2/26/01 Tr. at 13.

[334] Id.

[335] 2/26/01 Tr. at 108.

[336] Id. at 55.

Cavalier's Evidence

Cavalier contends that Verizon PA offers dark fiber in a discriminatory manner because it is a cumbersome, complex, and lengthy procedure for CLECs to order dark fiber.[337] Cavalier states that if it did not specify a direct connectivity path between COs when inquiring about the availability of dark fiber, Verizon PA responded that no dark fiber is available (i.e., A-B-C, instead of A-C).[338] Cavalier states that CLECs are limited to a guessing game known as the "inquiry process" to determine whether fiber exists between certain central offices since Verizon PA does not allow CLECs to directly access the information in the TIRKS system.[339] Cavalier further states that the CLECs' tools for finding dark fiber are limited to requesting maps, which do not show if dark fiber is available, and sheer guess work, which is a time-consuming process.[340]

Cavalier also states that Verizon PA does not permit CLECs to reserve dark fiber.[341] Additionally, Cavalier asserts that although Verizon PA has a field survey to test the available dark fiber, the survey does not result in reservation of that tested fiber.[342] Cavalier complains that the fiber tested may not be available since it has to augment its collocation arrangements before ordering.[343]

KPMG Consulting reviewed Verizon Pa and CLEC data regarding Cavalier's dark fiber orders. Fourteen of Cavalier's orders were canceled due to lack of facilities. These

[337] Cavalier 04/18/01 Comments at 5.

[338] Id. at 6.

[339] Id. at 2-3.

[340] Id. at 3.

[341] Id. at 8.

[342] Id. at 9.

[343] Id. at 8.

cancelled orders followed properly submitted Dark Fiber Request Forms, which had been returned with positive responses from Verizon PA. For 12 of these orders, the fiber was no longer available when Cavalier submitted the ASRs five to six months after the inquiries. Two of the orders were canceled when Verizon PA discovered that its initial positive response was in error due to errors in the TIRKS database, which was not discovered until the time of installation.[344]

Verizon PA responded to Cavalier's arguments by explaining that it does not reserve dark fiber for itself or any other entity.[345] Verizon PA states that it fills orders on a first-come, first-served basis,[346] but a CLEC needs to have physical fiber optic terminations in its collocation arrangement before ordering dark fiber, which Verizon PA claims is an "industry-wide standard" for all UNEs and reflected in Verizon PA's business rules.[347]

Verizon PA states that providing a dark fiber reservation system for CLECs would be discriminatory and, therefore, inconsistent with TA-96 and the UNE Remand Order. Verizon PA asserts that reservation of dark fiber for one CLEC to the exclusion of others would seriously harm Verizon PA's ability to provide services to its own end-users and other CLECs.[348]

XO

XO, who was not an active participant in the technical conference for this issue, states that it agrees with Cavalier's comments regarding dark fiber. XO further states that the ALJ recommended decision in the UNE pricing proceeding at Docket No.

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[344] KPMG Consulting 5/31/01 Final Provisioning Rep. at 22.

[345] Verizon PA 04/18/01 Comments at 39.

[346] Id.

[347] 2/26/01 Tr. at 23; Verizon PA Resp. to In-Hearing Data Req. 26.

[348] Verizon PA 04/18/01 Comments at 39-40.

R-00005261 amply demonstrates that the existing Verizon PA's terms, conditions and rates for the provisioning of dark fiber to CLECs are in dire need of major modifications and corrections.[349]

Additionally, XO alleges that ordering for special access of a DS-1 UNE services through Verizon PA's Carrier Services Gateway ("CSG") is unreliable.[350] XO further alleges that Verizon PA fails to send jeopardy notices for SA orders and XO must then call on every rejected order to determine why the order was rejected.[351] Finally, XO asserts that Verizon PA hardly ever meets the standard interval for provisioning Special Access.[352]

In response, Verizon PA states that XO's comments relate solely to special access services and are, therefore, irrelevant to the Section 271 proceeding.[353]

4. Discussion

We find that Verizon PA has adequately addressed Cavalier's complaints regarding the provisioning of dark fiber. During the *en banc* hearing, Verizon PA and Cavalier indicated that they had come to an agreement with regard to the provisioning of dark fiber as an unbundled network element.[354] On May 18, 2001, the parties entered into a Joint Stipulation reflecting their intention to enter into a trial to modify the current ordering procedure so that an order for dark fiber can occur essentially the same time as

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[349] XO 04/18/01 Comments at 14-15.

[350] Id at 5.

[351] Id.

[352] Id. at 6.

[353] Supp. Cklist Dec. at ¶ 139.

[354] 04/25/01 Tr. at 296-301.